

****Please note: this is a tentative course syllabus. It may change before the start of the semester in September 2023.****

PHIL 220 A01 - Fall 2023
Introduction to Philosophy of Science

Instructor: Eric Hochstein

CRN: 12671

Time: Tuesday/Wednesday/Friday 11:30 AM – 12:20 PM

Place: Cornett Building, Room A229

Office Hours (in Clearihue B330): Wednesday, 3:00-5:00 pm; and by appointment

Email: ehochstein@uvic.ca

Description: Science is considered our best and most effective way of learning about the world. But what exactly differentiates science from non-science? In this course, we will explore fundamental philosophical questions regarding the nature of science, and how it relates to more traditional philosophical questions regarding metaphysics and epistemology. More specifically, what is the demarcation between science from non-science? What counts as a good explanation in science, and why? Can the theories of one science (e.g. psychology) be reduced to theories of another (e.g. neuroscience)?

Structure: The course comprises three lectures (50min) per week, the contents of which will be based on the course readings. The course will proceed primarily through lectures and discussions. Readings for the class will all be uploaded onto the course website.

Intellectual property of materials on the LMS website: Please note that all assignments for this course and all materials posted to the LMS website are the intellectual property of myself and the University of Victoria. Do not circulate this material or post it to note-sharing sites without my permission. Posting course materials to note-sharing sites or otherwise circulating course materials without the permission of your instructor violates the Policy on Academic Integrity (https://www.uvic.ca/calendar/undergrad/index.php#/policy/Sk_0xsM_V?bc=true&bcCurrent=08%20-%20Policy%20on%20Academic%20Integrity&bcGroup=Undergraduate%20Academic%20Regulations&bcItemType=policies). Any evidence you are circulating materials without permission will be referred to the Chair of the Philosophy Department for investigation.

Evaluation: The course will be graded as follows:

- 2 mid-terms, worth 15% and 25%
- A term paper 25% (3-10 double-spaced pages);
- A final examination worth 35%.

Policy on assignments, tests, and term papers: The term papers are due in class, **in hard copy**, on the announced deadline. Late papers will receive a deduction of 5% per

day until handed in. Any exam missed without documentation of illness or family emergency will receive a 0.

Important to Note: It is expected that students will prepare for and attend class regularly. Students are encouraged to consult the instructor with any problems or concerns about the course **early** in the semester.

Grading System:

Percentages	Letter Grade	Grade Point
90 – 100	A+	9
85 – 89	A	8

F is earned by work, which after the completion of course requirements, is **inadequate** and unworthy of course credit towards the degree.

editing that is being authorized. Review by fellow students and tutoring that do not include editing are normally permitted.

Tentative Schedule of Readings:

Week 1 (Sept 6 & Sept 8): Introduction and Basics

No Readings for This Week

Week 2 (Sept 12, Sept 13 & Sept 15): Demarcating Science from Non-Science

Readings:

- Popper, K. "Science: Conjectures and Refutations", Read Sections I & II (pages 1-10)
- Thagard, P. "Why Astrology Is a Pseudoscience",

Week 3 (Sept 19, Sept 20 & Sept 22): Scientific Explanation & The D-N Account

Readings:

- Hempel, C. & Oppenheim, P. "Studies in The Logic of Explanation", Read Part I (pages 135-146)

Week 4 (Sept 26, Sept 27, Sept 29): Scientific Explanation & The Mechanist Account

Readings:

- Craver, C. "When Mechanistic Models Explain"

Week 5 (Oct 3, Oct 4 & Oct 6): Scientific Realism vs Scientific Anti-Realism (Part 1)

Midterm 1: Oct 6th

Readings:

- Okasha, "Realism & Anti-Realism"
- Hacking, I. "What is Scientific Realism?"

Week 6 (Oct 10, Oct 11 & Oct 13): Scientific Realism vs Scientific Anti-Realism (Part 2)

Readings:

- Van Fraassen, B. "Arguments Concerning Scientific Realism"

Week 7 (Oct 17, Oct 18 & Oct 20): Reductionism vs Anti-Reductionism (Part 1)

Term Paper Assigned Oct 20

Readings:

- Churchlands, "Intertheoretic Reduction: A Neuroscientist's Field Guide"

Week 8 (Oct 24, Oct 25 & Oct 27): Reductionism vs Anti-Reductionism (Part 2)

Readings:

- Fodor, J. "Special Sciences"

Week 9 (Oct 31, Nov 1 & Nov 3): Laws of Nature

Midterm 2: November 3rd

Readings:

- Cartwright, N. "Do the Laws of Physics State the Facts?"

Week 10 (Nov 7, Nov 8 & Nov 10): Science and the Search for Natural Kinds

Readings:

- Havstad, J. “Messy Chemical Kinds”

Week 11 (Nov 17): Scientific Representation

Classes Cancelled November 13th to 15 – Reading Break

Readings:

- Roskies, A. “Are Neuroimages Like Photographs of the Brain?”

Week 12 (Nov 21, Nov 22 & Nov 24): The Quine-Duhem Thesis

Term Paper Due Nov 21

Readings:

- Darling, K. “The complete Duhemian underdetermination argument: scientific language and practice”

Week 13 (Nov 28, Nov 29 & Dec 1): Spill Over and Review

No Readings

Note for students with disabilities:

The Centre for Accessible Learning (<https://www.uvic.ca/services/cal/>) is a fantastic resource that collaborates with all academic departments to help arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with them at the beginning of each academic term.